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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,965	10/07/2003	William J. Crilly JR.	MNT-0012US	6070
38356	7590	02/08/2008	EXAMINER	
BROOKS, CAMERON & HUEBSCH, PLLC 1221 NICOLLET AVENUE, SUITE 500 MINNEAPOLIS, MN 55403			NALVEN, ANDREW L	
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/680,965	CRILLY, WILLIAM J.	
Examiner	Art Unit		
Andrew L. Nalven	2134		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 07 October 2003.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-80 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 1-80 is/are rejected.
7) Claim(s) _____ is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 07 October 2003 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date, ____.
3) Information Disclosure Statement(s) (PTO/SB/08) 5) Notice of Informal Patent Application
Paper No(s)/Mail Date ____.
6) Other: ____.

DETAILED ACTION

1. Claims 1-80 are pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. With regards to claim 22, the limitation "if not" is unclear because the claim does not provide a limitation whereby the "if not" is triggered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-14, 16-33, 35-37, 49, 45-47, 50-53, 55, 58, 60-72, and 74-80 are rejected under 35 U.S.C. 102(e)** as being anticipated by Harvey et al US PGPub 2004/0252837.
5. **With regards to claims 1, 13, 18-19, 22, 26, 29, 36-37, 39, 50-51, 55, 60, 62-63, 65, 68-69, 71, 75,** Harvey teaches an apparatus comprising: at least one processor; and one or more media including processor-executable instructions that are capable of being executed by the at least one processor (Harvey, Figure 1, Figure 2), the processor-executable instructions adapted to direct the apparatus to perform actions comprising: monitoring at least one signal characteristic for a plurality of signals that relate to a single source address (Harvey, paragraph 0106, paragraph 0107, looks for characteristics for a particular MAC address); and detecting a wireless interloper if a discrepancy is determined to exist with regard to the monitored at least one signal characteristic for the plurality of signals (Harvey, paragraph 0107, location discrepancy).
6. **With regards to claims 2, 16, 61, 74, 78,** Harvey teaches the processor-executable instructions are adapted to cause the apparatus to perform further actions comprising: producing a plurality of communication beams; and receiving the plurality of signals via at least one communication beam of the plurality of communication beams (Harvey, paragraphs 0025-0029).
7. **With regards to claims 3, 21, 28, 52,** Harvey teaches the apparatus comprises an access station or a remote client (Harvey, paragraph 0026).

8. **With regards to claims 4, 27,** Harvey teaches the apparatus further comprises: an antenna array having a plurality of antenna elements; and a beamformer coupled to the antenna array (Harvey, paragraph 0029).

9. **With regards to claims 5, 32,** Harvey teaches the monitoring action comprises: ascertaining the at least one signal characteristic for the plurality of signals (Harvey, paragraph 0107, location).

10. **With regards to claims 6, 24-25, 30-31, 53,** Harvey teaches the ascertaining action comprises: ascertaining the at least one signal characteristic as selected from the group comprising: arrival delay, arrival direction, multipath offset, signal frequency, and signal strength (Harvey, paragraph 0042, signal strength, location triangulation for arrival direction).

11. **With regards to claim 7,** Harvey teaches the processor-executable instructions are adapted to cause the apparatus to perform a further action comprising: determining if the discrepancy exists with regard to the monitored at least one signal characteristic for the plurality of signals (Harvey, paragraph 0107, location discrepancy).

12. **With regards to claims 8, 20, 64, 72,** Harvey teaches the determining action comprises: determining if the monitored at least one signal characteristic for a first signal of the plurality of signals fails to be commensurate with the monitored at least one signal characteristic for a second signal of the plurality of signals (Harvey, paragraph 0042, 0107).

13. **With regards to claim 9,** Harvey teaches the determining action comprises: determining if a bi-modal distribution exists responsive to a predetermined threshold

with regard to the monitored at least one signal characteristic for the plurality of signals (Harvey, paragraph 0107-0108).

14. **With regards to claims 10, 14, 17, 45, 46, 58, 66, 70, 79-80**, Harvey teaches everything described above and further teaches the processor-executable instructions are adapted to cause the apparatus to perform a further action comprising: if a wireless interloper is detected in the detecting action, countering the wireless interloper (Harvey, paragraphs 0122-0123, alerts raised to spoofing attacks).

15. **With regards to claim 11, 67**, Harvey teaches the monitoring action comprises: receiving a plurality of packets having the at least one signal characteristic, each packet of the plurality of packets including the single source address (Harvey, paragraph 0107, same MAC address).

16. **With regards to claim 12**, Harvey teaches the detecting action comprises: detecting that two sources exist for the plurality of signals that related to the single source address if a discrepancy is determined to exist with regard to the monitored at least one signal characteristic for the plurality of signals (Harvey, paragraphs 0122-0123, paragraphs 0106-0108).

17. **With regards to claim 23**, Harvey teaches the first characteristic and the at least one second characteristic being spatial (Harvey, paragraph 0107, location).

18. **With regards to claims 33, 35, 47, 76-77**, Harvey teaches storing the at least one characteristic for a packet in an entry of a table corresponding to a particular address (Harvey, paragraphs 0108, 0042, 0127).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. **Claims 15, 34, 38, 40-41, 48-49, 54, 56, 59, 73 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Harvey et al US PGPub 2004/0252837 in view of Chelsa US PG Pub 2004/0250124.

20. **With regards to claims 15, 49, 59,** Harvey teaches the action of countering comprises at least one action selected from the group comprising: providing notification of the detected wireless interloper (Harvey, paragraphs 0122-0123, alerts raised to spoofing attacks); recording the ascertained at least one signal characteristic for the plurality of signals that relate to the single source address (Harvey, paragraphs 0108, 0042, 0127), but fails to teach terminating one or more communications that relate to the single source address. However, Chelsa teaches terminating one or more communications that relate to the single source address (Chelsa, paragraph 0426). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Chelsa's method of terminating communications because it offers the advantage of blocking malicious traffic while minimizing the negative effects upon legitimate network traffic (Chelsa, paragraph 0017).

21. **With regards to claims 34, 38, 54, 56, 73,** Harvey fails to teach increasing a packet tally at an ascertained value of the at least one characteristic at an entry

corresponding to the particular address and the threshold comprising a number of packets. However, Chesla teaches increasing a packet tally at an ascertained value of the at least one characteristic at an entry corresponding to the particular address and the threshold comprising a number of packets (Chesla, paragraph 0033). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Chesla's method of counting packets because it offers the advantage of aiding in determining the existence of an attack and in determining if filtering countermeasures are effective (Chesla, paragraph 0032).

22. **With regards to claims 40-41**, Harvey fails to teach clearing the bi-modal distribution that exists with regard to the particular address; determining if the bi-modal distribution is presented again; and if so, detecting the interloper with regard to the particular address based on the re-presentation of the bi-modal distribution. However, Chesla teaches clearing the bi-modal distribution that exists with regard to the particular address; determining if the bi-modal distribution is presented again; and if so, detecting the interloper with regard to the particular address based on the re-presentation of the bi-modal distribution (Chesla, paragraph 0032-0033, detects intrusion, then filters, then restarts detection to determine if filters are effective). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Chesla's method of detection because it offers the advantage of blocking malicious traffic while minimizing the negative effects upon legitimate network traffic (Chesla, paragraph 0017).

23. **With regards to claim 48**, Harvey fails to teach recording a payload of the packet having the particular address. However, Chesla teaches recording a payload of the packet having the particular address (Chesla, paragraphs 0264-0265, records headers and payloads in buffers for analysis). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Chesla's method of detection because it offers the advantage of blocking malicious traffic while minimizing the negative effects upon legitimate network traffic (Chesla, paragraph 0017).

24. **Claims 42, 43, 44, 57 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Harvey et al US PGPub 2004/0252837 in view of Bardsley et al US Patent No. 7,308,714.

25. **With regards to claims 42-44, 57**, Harvey fails to teach applying an aging policy to logged characteristics for packets having the particular address. However, Bardsley teaches applying an aging policy to logged characteristics for packets having the particular address (Bardsley, column 5 lines 45-55, aging policy past 5 minutes). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Bardsley's method of using an aging policy because it offers the advantage of allowing fine tuning of attack signatures to allow detection of a signature of packets that occurs within a designated time window thus providing greater clarity of alerts to administrators (Bardsley, column 1 lines 30-50).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Nalven whose telephone number is 571 272 3839. The examiner can normally be reached on Monday - Thursday 8-6, Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on 571 272 3811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Nalven
